Water Conflict Prevention and Scale:
The Tale of Two Rivers - the Mekong and Columbia

PhD Dissertation
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This research applies a resilience framework to better characterize adaptive capacity and resiliency in the Mekong Basin. Using this framework, vulnerabilities are identified in the system, and responses to strengthen resiliency, such as collaborative processes, are evaluated. The research includes a basin comparison within a resiliency framework to analyze the effects of basin development amongst vulnerable groups in the Columbia and Mekong Basins.

1) Conflict Prevention and Scale on the Mekong – Adaptation and Resiliency
Research Question: Does scale have an effect on cooperation over water in the Mekong Basin?
Hypothesis: Lack of institutional capacity at sub-basin scales increases conflict in the basin
Model: Resiliency and adaption theory using a social-ecological systems (SES) model
Methods: *Qualitative* - Characterize system, assess vulnerabilities, evaluate against development scenarios. *Quantitative (spatial and temporal)* - Regress social, economic, environmental data against conflict/cooperation events

2) Conflict Prevention in the Mekong Basin through Collaborative Decision-making
Research Question: Is collaborative decision-making an effective tool to prevent and manage conflict in the Mekong Basin?
Hypothesis: Collaborative processes enhances basin resiliency and cooperation at the sub-basin scale
Model: Resiliency theory (sub-theory – collaborative learning systems)
Methods: *Field work* - Apply a collaborative decision-making process to a known conflict at the sub-basin scale in the Mekong. Supporting case studies of collaborative actions prevented conflict.

3) Responses to Water Resource Development: a comparison of the Mekong and Columbia River Systems
Research Question: Do development paradigms on river basins affect basin resiliency – particularly among vulnerable and disadvantaged stakeholders?
Hypothesis: Development of river basins degrades basin resiliency at the local scale
Model: Resiliency theory (sub-theory – sustainable development)
Methods: *Comparative study* – Compare how the Mekong and Columbia River Basins develop water resources and assess impacts among vulnerable and disadvantaged stakeholder groups (Native Americans, Khmer Krom, etc.)

Mekong River Basin Vulnerability and Resilience Analysis